

08/917044 1/07/98

not available
as prior art

US PAT NO: 5,855,975 [IMAGE AVAILABLE]

L6: 4 of 64

ABSTRACT:

A resinous film at least partially formulated from a recycled resin and containing a vapor phase corrosion inhibitor. One embodiment of the invention is a single layer film which is formulated from three components. The first component is a recycled resin such as polyethylene, the second component is a fresh resin identical to the first, and the third component is a vapor phase anti-corrosion agent.

Multi-layer films are also included. The films emit the anti-corrosion agent over a period of time to thereby protect items encased by the film.

:kwic

US PAT NO: 5,855,975 [IMAGE AVAILABLE]

L6: 4 of 64

ABSTRACT:

A . . . second component is a fresh resin identical to the first, and the third component is a vapor phase anti-corrosion agent.

Multi-layer films are also included. The films emit the anti-corrosion agent over a period of time to thereby protect items encased. . .

SUMMARY:

BSUM(7)

Yet another object of the present invention is to provide a **multi-layer laminate** film wherein at least one of the layers is formulated at least in part from recycled plastic and wherein the . . .

SUMMARY:

BSUM(10)

The . . . and containing a vapor phase corrosion inhibitor. Formulations of the corrosion inhibitor are compatible with the resins, preferably polyethylene or **polypropylene**, and are extruded therewith during manufacture of the film. One embodiment of this invention is a single layer film which. . .

SUMMARY:

BSUM(11)

Another embodiment is a double layer **laminated** resin film comprising a first layer formulated from a recycled resin and a second layer formulated from a fresh resin.. . .

SUMMARY:

BSUM(12)

A third embodiment is a triple layer **laminate** product wherein the

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> s recycl? and 12 and 15

94956 RECYCL?
L10 15 RECYCL? AND L2 AND L5

=> s 110 not 16

L11 64 S L6
L12 0 L10 NOT L11

=> d 110 1-

1. 5,855,975, Jan. 5, 1999, Anti-corrosion plastic film containing **recycled** resin; Boris A. Miksic, et al., 428/35.8, 35.9, 331, 404, 461, 903.3, 910 [IMAGE AVAILABLE]

not available
(N/A)

2. 5,824,745, Oct. 20, 1998, Resin composition; William F. Brown, 525/178; 521/40, 40.5, 42, 45.5, 46, 49.8; 525/183, 184, 540 [IMAGE AVAILABLE]

N/A

3. 5,783,637, Jul. 21, 1998, Plastic container made form a fusion blend of post consumer plastic and ethylene polymers; James N. Herman, et al., 525/240; 215/44; 264/454; 428/35.7 [IMAGE AVAILABLE]

N/A

4. 5,736,093, Apr. 7, 1998, Method for making a **multi-layer** blow molded container; William A. Slat, 264/513, 135 [IMAGE AVAILABLE]

N/A

5. 5,712,009, Jan. 27, 1998, Coextruded **multilayer** plastic container utilizing post consumer plastic; Duane H. Moore, et al., 428/35.7; 206/524.1, 524.6; 215/12.1; 264/454, 917, 920; 428/36.92, 500, 542.8, 903.3; 525/240 [IMAGE AVAILABLE]

6. 5,702,033, Dec. 30, 1997, Adjoined dual-tube dispenser; Ted L. Beaver, 222/94, 145.3, 556; D9/302 [IMAGE AVAILABLE]

N/A

7. 5,693,391, Dec. 2, 1997, Plastic container made from a fusion blend of post consumer plastic and ethylene polymers; James N. Herman, et al., 428/35.7; 264/500, 512; 525/240 [IMAGE AVAILABLE]

N/A

8. 5,693,283, Dec. 2, 1997, Container with **recycled** plastic; Gregory Fehn, 264/513; 215/12.1; 264/512, 515, 918; 428/36.6, 36.7 [IMAGE AVAILABLE]

Issued
Parent

9. 5,601,891, Feb. 11, 1997, Plastic container made from a fusion blend of post consumer plastic and ethylene polymers; James N. Herman, et al., 428/35.7; 206/524.1, 524.6; 215/379; 428/2, 36.92, 500, 903.3; 525/240 [IMAGE AVAILABLE]

10. 5,554,657, Sep. 10, 1996, Process for **recycling** mixed polymer containing polyethylene terephthalate; Thomas F. Brownscombe, et al., 521/48; 209/166; 521/46, 46.5; 528/308.1, 502A [IMAGE AVAILABLE]

N/A

11. 5,552,198, Sep. 3, 1996, Plastic container made from post consumer plastic film; James E. Hiltner, et al., 428/35.7; 206/524.1, 524.6; 264/918; 428/36.92, 500, 542.8; 525/240 [IMAGE AVAILABLE]

12. 5,534,317, Jul. 9, 1996, Plastic container made from a fusion blend

N/A

Already
considered
& closed

Does not
teach laminated
multilayer
structure
used for blending

Does not
teach recycling

of post consumer plastic and ethylene polymers; James N. Herman, et al.,
428/35.7; 206/524.1, 524.6; 215/44; 428/36.92, 542.8, 903.3; 525/240
[IMAGE AVAILABLE]

*does not
reach polypropylene*
13. 5,486,390, Jan. 23, 1996, **Recyclable** blister package; Donald J.
Burns, et al., 428/40.6; 206/461, 467, 469, 484.2, 531, 532; 229/125.35;
428/195, 483 [IMAGE AVAILABLE]

14. 5,310,613, May 10, 1994, High sensitivity visible and infrared
photoreceptor; Damodar M. Pai, et al., 430/59, 58 [IMAGE AVAILABLE]

NOT relevant

15. 5,295,339, Mar. 22, 1994, Simulated individual self-venting
overlapping plastic shake; Warren R. Manner, 52/518, 313, 533, 556, 558

Not relevant

08/917044 1/07/98

*not available as
prior art*

US PAT NO: 5,702,033 [IMAGE AVAILABLE]

L6: 27 of 64

ABSTRACT:

A dispenser with adjoined dual tubes for providing a combination of ingredients which remains separate from each other during storage. The compartments, at one end, taper to a restricted opening adjacent to each other. Each of the openings has a shape generally of a D, with the straight ends of the D's lying next to each other. The tapering of the openings creates a nozzle of these orifices. This tapering nozzle then fits directly into a single opening in the bottom section of a hinged cap. From there they dispense the product directly. In their manufacture, for example through extrusion-blow molding, the bottom ends of the two compartments connect to an integrally formed plenum. This common plenum facilitates the molding of the dispenser from a thermoplastic. The finishing of the tube involves the removal of the common plenum. After filling, the bottoms of the two tubes may undergo heat sealing to close them and to connect them together.

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US PAT NO: 5,702,033 [IMAGE AVAILABLE]

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DETDISC:

DETD(9)

Virtually any moldable thermoplastic will readily find use in making the preform 69 and thus the dispenser 21. **Polyethylene** has experienced wide use in such containers, as have **polypropylene**, **polyethylene terephthalate**, and **polyvinyl chloride**. Alternately, the container may have **laminated** walls containing several layers. These layers can include, again, **polyethylene** or most any other moldable resin including those listed above. It may also incorporate an oxygen barrier of which **EVOH** represents the usual example. In this case, additional layers of adhesive may prove desirable to avoid the delamination of the walls. Additionally, one or more of the layers may include a regrind or even a **post-consumer recycled plastic**.

CLAIMS:

CLMS(18)

18. The dispenser of claim 17 wherein said thermoplastic comprises polyethylene, **polypropylene**, polyethylene terephthalate, or polyvinyl chloride.

CLAIMS:

CLMS(19)

19. The dispenser of claim 18 wherein the walls of said tubes are **multilayered**.

CLAIMS:

CLMS(44)

44. The dispenser of claim 43 wherein said thermoplastic comprises polyethylene, **polypropylene**, polyethylene terephthalate, or polyvinyl chloride.

CLAIMS:

CLMS (45)

45. The dispenser of claim 44 wherein the walls of said tubes are **multilayered**.

CLAIMS:

CLMS (63)

63. The tube of claim 52 wherein said thermoplastic comprises polyethylene, **polypropylene**, polyethylene terephthalate, or polyvinylchloride.

CLAIMS:

CLMS (64)

64. The tube of claim 63 wherein the walls of said elongated tubes are **multilayered**.

:27 leg

US PAT NO:	5,702,033 [IMAGE AVAILABLE]	L6: 27 of 64
DATE ISSUED:	Dec. 30, 1997	
TITLE:	Adjoined dual-tube dispenser	
INVENTOR:	Ted L. Beaver, Roselle, IL	
ASSIGNEE:	Continental Plastic Containers, Inc., Norwalk, CT (U.S. corp.)	
APPL-NO:	08/479,942	
DATE FILED:	Jun. 7, 1995	
ART-UNIT:	314	
PRIM-EXMR:	Joseph Kaufman	
LEGAL-REP:	Eugene F. Friedman	

layers comprise, in order, a first resin film layer formulated according to the single layer film defined. . .

DETDESC:

DETD(2)

In preparing single layer or **multi-layer** resin films of the present invention, an anti-corrosion composition is first formulated for subsequent incorporation into the film.

DETDESC:

DETD(24)

A single layer **polyethylene** film having incorporated therein a vapor phase corrosion inhibitor is prepared by blending 75% by weight fresh **polyethylene** resin and 25% by weight **post consumer recycled polyethylene** resin, to which is added, in a quantity equal to 2% by weight of the resin mixture, a corrosion inhibitor. . . containing the vapor phase corrosion inhibitor of the type described. As in this Example and in all film constructions employing **post consumer recycled** resin, a pigment addition to the formulation may be required or desirable to provide a color adjustment. Likewise, in all. . .

DETDESC:

DETD(26)

Instead of including a fresh **polyethylene** resin, a single layer **polyethylene** film having incorporated therein a vapor phase corrosion inhibitor is prepared by adding the corrosion inhibitor agent of Example V to a **polyethylene** resin which is 100% **post consumer recycled** resin. The resulting composition is formed to a master batch which is rendered into pellet form and finally extruded as a film containing a vapor phase corrosion inhibitor and produced from 100% **post consumer recycled polyethylene**.

DETDESC:

DETD(28)

A double layer **laminated polyethylene** film having incorporated therein a vapor phase corrosion inhibitor is prepared by providing a master batch of **post consumer recycled polyethylene** resin and a master batch of fresh **polyethylene** resin. The fresh **polyethylene** resin has incorporated therein an anti-corrosion agent as defined in Example V. Each of the master batches of recycled resin. . . is chopped and rendered into pellet form, and the two resins are thereafter coextruded to thereby produce the double layer **laminated polyethylene** film. In use, the film is positioned about an item to be protected so that the fresh-resin layer containing the. . .

DETDESC:

DETD(30)

A triple layer **laminated** film having incorporated therein a vapor phase corrosion inhibitor is prepared by providing a plastic film such as biaxially oriented. . . having a metallic layer deposited thereon. A **polyethylene** film produced according to either of Examples VI(a) or VI(b) is then **laminated** to the metallic layer to form a triple layer composite film having anti-corrosion properties.

CLAIMS:

CLMS(3)

3. . . . claim 1 wherein the first and second substantially identical components are polyolefins selected from the group consisting of polyethylene and **polypropylene**.

CLAIMS:

CLMS(10)

10. . . . claim 9 wherein the first and second substantially identical components are polyolefins selected from the group consisting of polyethylene and **polypropylene**.

CLAIMS:

CLMS(12)

12. A double layer **laminated** resin film comprising first layer formulated from a recycled plastic and a second layer formulated from an original, non-recycled plastic. . .

CLAIMS:

CLMS(13)

13. A double layer **laminated** resin film as claimed in claim 12 wherein the corrosion inhibitor component comprises a mixture by weight of from about. . .

CLAIMS:

CLMS(14)

14. A double layer **laminated** resin film as claimed in claim 12 wherein the corrosion inhibitor component comprises a mixture by weight of from about. . .

CLAIMS:

CLMS(15)

15. A double layer **laminated** resin film as claimed in claim 12 wherein the corrosion inhibitor component comprises by weight a mixture of about 68%. . .

CLAIMS:

CLMS(16)

16. A double layer **laminated** resin film as claimed in claim 15 wherein the resin is a polyolefin selected from the group consisting of polyethylene and **polypropylene**.

CLAIMS:

CLMS(17)

17. A double layer **laminated** resin film comprising a first layer formulated from a recycled plastic and a second layer formulated from an original, non-recycled. . .

CLAIMS:

CLMS(18)

18. A double layer **laminated** layer resin film as claimed in claim 17 wherein said corrosion inhibitor component comprises by weight a mixture of about. . .

CLAIMS:

CLMS (19)

19. A double layer **laminated** resin film as claimed in claim 17 wherein the anhydrous molybdate is an amine molybdate of the formula: ##STR3## wherein. . .

CLAIMS:

CLMS (20)

20. A triple layer **laminated** product wherein the layers comprise in order:
(a) a first layer comprising a resinous first component comprising a recycled plastic,. . .

CLAIMS:

CLMS (21)

21. A triple layer **laminated** product as claimed in claim 20 wherein the third component comprises a mixture by weight of from about 22% to. . .

CLAIMS:

CLMS (22)

22. A triple layer **laminated** product as claimed in claim 20 wherein the anti-corrosion third component comprises by weight a mixture of about 25% sodium. . .

CLAIMS:

CLMS (23)

23. A triple layer **laminated** product as claimed in claim 22 wherein the anhydrous molybdate is an amine molybdate of the formula: ##STR4## wherein R.sub.1. . .

CLAIMS:

CLMS (24)

24. A triple layer **laminated** product as claimed in claim 20 wherein the first and second substantially identical components are polyolefins selected from the group consisting of polyethylene and **polypropylene**.

CLAIMS:

CLMS (25)

25. A triple layer **laminated** product as claimed in claim 24 wherein the first component is from about 25% to about 50% by weight in. . .

CLAIMS:

CLMS (26)

26. A triple layer **laminated** product as claimed in claim 20 wherein

the third component comprises by weight a mixture of from about 50% to.

CLAIMS:

CLMS(27)

27. A triple layer **lamine** product as claimed in claim 20 wherein the third component comprises by weight a mixture of about 68% cyclohexylamine benzoate, . . .

CLAIMS:

CLMS(28)

28. A triple layer **lamine** product as claimed in claim 27 wherein the first and second substantially identical components are polyolefins selected from the group consisting of polyethylene and **polypropylene**.

CLAIMS:

CLMS(29)

29. A triple layer **lamine** product as claimed in claim 28 wherein the first component is from about 25% to about 50% by weight in. . .
:d 4

4. 5,855,975, Jan. 5, 1999, Anti-corrosion plastic film containing recycled resin; Boris A. Miksic, et al., 428/35.8, 35.9, 331, 404, 461, 903.3, 910 [IMAGE AVAILABLE]
:leg

US PAT NO:	5,855,975 [IMAGE AVAILABLE]	L6: 4 of 64
DATE ISSUED:	Jan. 5, 1999	
TITLE:	Anti-corrosion plastic film containing recycled resin	
INVENTOR:	Boris A. Miksic, North Oaks, MN Joseph M. Foley, Maplewood, MN	
ASSIGNEE:	Cortec Corporation, St. Paul, MN (U.S. corp.)	
APPL-NO:	08/491,533	
DATE FILED:	Jun. 16, 1995	
ART-UNIT:	173	
PRIM-EXMR:	H. Thi Le	
LEGAL-REP:	Haugen and Nikolai, P.A.	

08/917044 1/07/98

US PAT NO: 5,804,660 [IMAGE AVAILABLE] L4: 9 of 142
DATE ISSUED: Sep. 8, 1998
TITLE: Impact modified thinwall polymer compositions
INVENTOR: Alan R. Whetten, Lake Jackson, TX
Stephanie C. Cirihal, Lake Jackson, TX
Stephen M. Hoenig, Lake Jackson, TX
Ronald P. Markovich, Houston, TX
ASSIGNEE: The Dow Chemical Company, Midland, MI (U.S. corp.)
APPL-NO: 08/470,394
DATE FILED: Jun. 6, 1995
ART-UNIT: 173
P

*not available
as prior art*

08/917044 1/07/98

(FILE 'USPAT' ENTERED AT 08:54:50 ON 07 JAN 1999)

L1 219 S (PCR OR POST CONSUMER RECYCL?) (P) (POLYETHYLENE OR PE)
L2 319426 S (PP OR ?PROPYLENE) OR (EVOH OR ETHYLENE VINYL ALCOHOL) O
R (
L3 142 S L1 AND L2
L4 142 FOCUS L3 1-
L5 64 S (MULTILAYER? OR MULTI-LAYER? OR LAMINA?) AND L3
L6 64 FOCUS L5 1-

FILE 'EPO, JPO' ENTERED AT 09:25:49 ON 07 JAN 1999

FILE 'EPO'

L7 0 S L5

FILE 'JPO'

L8 0 S L5

TOTAL FOR ALL FILES

L9 0 S L5

FILE 'USPAT' ENTERED AT 09:32:32 ON 07 JAN 1999

L10 15 S RECYCL? AND L2 AND L5

L11 64 S L6

L12 0 S L10 NOT L6

E 4587073/UREF

L13 6 S E3

L14 0 S L13 AND L1

E 4942008/UREF

L15 8 S E3